

A single male example from Holothuria Bank (China Sea), 24 fath.

Judging by its size the example here described is young, and it is necessary to bear in mind that it may prove to be the young of *G. cultrifer*. Since, however, it appears to have all the characters of an adult, I have decided, at all events provisionally, to regard it as a distinct form. It may be at once recognized from *G. cultrifer* by the presence of *three*, and not two, teeth on the hand of the raptorial limb, and by the lowness of the median crest of the telson.

EXPLANATION OF PLATE XX. B.

- Fig. 1.* *Gonodactylus Smithii*, sp. n.; last abdominal tergite and telson from above, $\times 2$. 1 *a.* Ditto, ditto, from the side, $\times 2$.
Fig. 2. *Gonodactylus tuberosus*, sp. n.; last abdominal tergite and telson from above, $\times \frac{3}{2}$. 2 *a.* Ditto, ditto, from the side, $\times \frac{3}{2}$. 2 *b.* Ditto, rostrum.
Fig. 3. *Gonodactylus Hansenii*, sp. n.; anterior end of body. 3 *a.* Ditto, last abdominal tergite and telson, from above, $\times 2$. 3 *b.* Ditto, ditto, from the side.
Fig. 4. *Gonodactylus carinifer*, sp. n.; anterior end of body. 4 *a.* Ditto, last abdominal tergite and telson, from above. 4 *b.* Ditto, ditto, from the side; nat. size.

BIBLIOGRAPHICAL NOTICE.

Éléments de Paléontologie. Par FÉLIX BERNARD &c. Première Partie (pages 1 à 528), avec 266 figures dans le Texte. 8vo. Baillièrè, Paris, 1893.

PALÆONTOLOGY is here treated in a very full and masterly manner. The object and history of the Science are first noticed. Its relationship to Biology and Geology is clearly defined, and the necessity of a knowledge of these, as collateral studies, is insisted on. Its history extends from the ancient recognition of fossil shells having once been marine, to the systems of modern philosophy, comprehending far-advanced theories of natural history in its many branches, and the now-established doctrine of Evolution. Chapter II. deals with the definition of "Species," gradations of varieties, and transitional forms; also how far natural selection and the influence of locality and requirements have had effect. Correlation of structure and rudimentary organs are considered; and parallelism and convergence among forms, also aberrant and synthetic types, are carefully exemplified. How far there may be a vital force in species and in larger groups, and whether the perfection of races and individuals may be looked for, are among the problems still waiting for elucidation by the study of facts. In Chapters III. and IV. the Author defines natural classification and phylogeny, referring to the help of comparative anatomy in the study of the evolution of organs,

and the unity of plan. The importance of Embryogeny in these researches is shown; and a recognition of the geological continuity of beings is indispensable. This leads to the consideration of successive faunas and floras through geological times; and how they may have been influenced by locality and by changes in marine and freshwater conditions; also by variations of climate. Chapters V. and VI., after explaining why and how organic beings have become fossilized, give a classification of the known strata and the general palæontological characters of their greater divisions.

The Author clearly shows how Biology cannot be mastered if the study of Fossils be omitted, since both the living and the extinct forms come under the law of evolution in a not yet fully understood complex, of which some constituent lines have been traced, whilst numerous coils and networks have yet to be unravelled. Leaving much of the technical work of a palæontologist in the field and the laboratory to be learnt from other instructors, M. Bernard proceeds to elaborate the special object of this portion of his work, namely Animal Palæontology, in a most orderly and painstaking manner, and with numerous satisfactory figures in the text, all clear and definite, and almost, if not quite, all newly drawn from good sources. The Author has evidently endeavoured to master the details of each group, but still caution must be taken in following him in every case. We unfortunately opened the book at page 325, where a few mistakes at once appear—thus *Edwardsi* is misprinted "*Edward*;" the figure of the *Palæocypris* is an inferior and reversed copy of the original, with some inaccuracies in the letters of reference to parts; fig. 156, E, is not Barrande's *Bolbozoe*; and the diagnosis of M'Coy's *Beyrichia* is incorrect. Without further fault-finding we wish to recommend this work as evidently the result of good honest work by a palæontologist possessed of many, but not necessarily of all, of the special qualifications wanted in so very wide a field of research.

The Protozoa occupy pages 77–107, and comprise the Foraminifera and Radiolaria. The Spongiaria occupy pages 107–130, the Cœlenterata pages 130–194, the Echinodermata pages 195–322, and the Arthropoda pages 323–397; the Nemathelmintha are mentioned at page 397; the Vermes Ciliati comprise the Bryozoa (pages 398–401), Brachiopoda (pages 401–440), and Chætopoda (pages 440–442); the Mollusca partly—thus Amphineura (page 444), Gastropoda (pages 445–524), and a few pages (524–528) making a commencement of the Lamellibranchiata. The foregoing and other names of the groups are given in French, not Latin. The relative attention given to each is approximately represented by the number of pages indicated above.

The bibliographic references throughout are numerous and useful, and valuable classificatory and other tables are to be found in their right places. With the Second Part of the work doubtless a good Index and full Table of Contents will be given, and these will be very useful.